

**SHALE DEVELOPMENT CORPORATION**HYDROCARBON PROCESSES  
OIL PRODUCTION313 HIGH STREET • P. O. BOX 44  
REDLANDS, CALIFORNIA 92373

December 10, 1982

RECEIVED  
DEC 14 1982DEPARTMENT OF ENVIRONMENTAL HEALTH  
P. O. Box 2500  
Salt Lake City, Utah 84110DIVISION OF  
OIL GAS & MINING

ATTN: Dennis Dalley

RE: Sand Wash Experimental Oil Shale Test Program

Dear Mr. Dalley:

We wish to confirm our telephone conversation of this date and furnish you the information which you requested. We trust you will be able to evaluate the enclosed information and enable you to approve our program as an "Experimental" thus alleviating the necessity of a formal "Pre Design" conference. If our testing program proves satisfactory, we will of course wish to pursue plans for a small commercial facility which will require an "In Depth" evaluation.

PROJECT LOCATION:STATE OF UTAH, SALT LAKE MERIDIAN  
Township 11 S, Range 18 ENE $\frac{1}{4}$  of Section 29  
SE $\frac{1}{4}$  of Section 29  
SW $\frac{1}{4}$  of Section 28  
NW $\frac{1}{4}$  of Section 33LAND STATUS:Private. Owned by Sand Wash Mining Company  
P. O. Box 8  
Myton, Utah 84052PURPOSE:

To evaluate shale ore sizing in relationship to efficiencies of two types of retorts.

RETORT EQUIPMENT:

ENDECO I Direct Fired Retort  
25 Barrel per day (24 hr) maximum capacity.

ENDECO VIII C Indirect Fired Retort  
200 Barrel per day (24 hr) maximum capacity

LENGTH OF TEST PROGRAM:

12 to 18 months

OIL PRODUCTION:

Maximum possible = 251 Barrels per day

Probable average over 12 months = 50 barrels per day.

FOOD SERVICES ON SITE:

None

LIVING FACILITIES ON SITE:

None - probably in Roosevelt, Utah

SANITARY FACILITIES ON SITE:

Chemical toilets leased from and under contract with authorized sanitation agency who will service and maintain facilities.

QUANTITY OF EMPLOYEES ON SITE:

4 to 6

DRINKING WATER SOURCE:

2 gallons per man, per day bottled water brought from Roosevelt, Utah. At such time if and when it is determined that additional potable water is required, such water will be furnished under contract with an approved carrier who will supply sanitary hauling and storage facilities.

AIR QUALITY CONSIDERATION:

25 Barrel/Day Retort will be equipped with cyclone separators and electrostatic precipitator and emissions are expected as follows:

SO <sub>2</sub>	32 grams/hr of operation
NO <sub>2</sub>	.02 grams/hr of operation
CO <sup>x</sup>	1.0 grams/hr of operation
PM	80 grams/hr of operation

200 Barrel/Day Retort will be equipped with cyclone separators and electrostatic precipitator and emissions are expected as follows:

SO <sub>2</sub>	240 grams/hr of operation
NO <sub>x</sub>	.15 grams/hr of operation
CO	7.5 grams/hr of operation
PM	600 grams/hr of operation

#### WATER QUALITY CONSIDERATION:

There is no water or steam used in either process.

25 Barrel Retort will produce approximately 5 gallons of effluent water for each hour of operation.

*245  
120 g/day  
(worst case)*

200 Barrel Retort will produce approximately 41 gallons of effluent water for each hour of operation.

*41  
164  
82 g/day  
(worst case)*

This water will be evaporated during cooling of spent shale.

The analysis of this water is as follows:

*gallons @ 1100 g/day*

Ammonia	2.4 grams/liter = 2400 mg
Sodium	2.5 grams/liter = 2500 mg
Carbonate	20.8 grams/liter = 20800 mg
Chloride	1.8 grams/liter = 1800 mg
Sulfate	1.2 grams/liter = 1200 mg
Carbon (Organic)	2.5 grams/liter = 2500 mg
Nitrogen (Organic)	1.0 grams/liter = 1000 mg
Nitrate	Trace

#### HAZARDOUS SOLID WASTE:

There will be no hazardous waste. The spent shale will be used as fill material with provisions to control run off and leachates.

The analysis of the spent shale is as follows:

<u>COMPONENT</u>	<u>% BY WT</u>
SiO <sub>2</sub>	51.5
Fe <sub>2</sub> O <sub>3</sub>	(2.8)
Al <sub>2</sub> O <sub>3</sub>	13.9
CaO	23.1
MgO	2.9
Na <sub>2</sub> O	2.7
K <sub>2</sub> O	2.3
Trace Element	.8

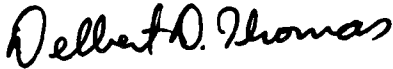
*pyrite?*

We trust this information is sufficient for your evaluation and trust that you will be able to act upon this letter so that we may supply all requested material to Sy Young at the Division of Oil, Gas and Mining in time for their action during the first week of January.

If there is any problems in meeting this time schedule, we would appreciate receiving your telephone call.

Very truly yours,

SHALE DEVELOPMENT CORPORATION



Delbert D. Thomas  
President

DDT:cp

cc: Sy Young  
Lowell Card  
John Frezieres

# SHALE DEVELOPMENT CORPORATION

HYDROCARBON PROCESSES  
OIL PRODUCTION

313 HIGH STREET • P.O. BOX 44  
REDLANDS, CALIFORNIA 92373

December 10, 1982

UINTAH BASIN DISTRICT HEALTH DEPARTMENT  
64 E. Main Street, Room 19  
Vernal, Utah 84078

ATTN: Lowell Card

RE: Sand Wash Project  
Uintah County, Utah

Dear Mr. Card:

We wish to thank you for the cooperation given Mr. John Frezieres of Rio Verde Mining Company during his recent visit to your office. Because this office has been coordinating with the State Department of Environmental Health, Mr. Frezieres thought that it might be better if we also coordinated with your office.

Mr. Frezieres also advised us to keep you informed of any correspondence between this office and the State. We will therefore be supplying your office with copies of pertinent correspondence.

As you were no doubt advised, we are only beginning an experimental facility and will only employ a maximum of from four to six men. These employees will be lodged in Roosevelt, Utah and not at the site. Because of this, there will be no food service or sanitary facilities at the site, other than chemical toilets which will be leased and serviced by a local sanitary firm.

Because there are no showers, laundry or lavatory facilities at the site, bottled drinking water will be brought onto the site daily by the employees. At such time, if and when it is determined that additional potable water is required, a contract will be issued to an authorized service firm who will furnish sanitary hauling, transferring, and storage facilities.

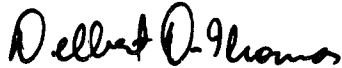
At such time as we have completed our testing, we will develop a complete finalized mine and site plan and will seek your assistance, as well as that of the State, in developing permanent water and sanitary facilities.

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Sand Wash Project  
Uintah County, Utah

If you have any questions please feel free to contact the undersigned  
at our Redlands, California office.

Very truly yours,

SHALE DEVELOPMENT CORPORATION



Delbert D. Thomas  
President

DDT:cp

cc: ✓ Sy Young  
John Frezieres  
Dennis Dalley